DOCUMENT RESUME

ED 286 484 IR 012 818

AUTHOR Morris, Donald R.
TITLE Evaluation of the 1983-84 ECIA, Chapter II Computer Education Project.
INSTITUTION Dade County Public Schools, Miami, FL. Office of Educational Accountability.
PUB DATE Oct 84
NOTE 14p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Educational Objectives; Elementary Secondary Education; Expenditures; *Federal Programs; *Microcomputers; Program Evaluation
IDENTIFIERS *Dade County Public Schools FL; *Education Consolidation Improvement Act Chapter 2

ABSTRACT

Following an overview of acquisition, distribution, maintenance, and support activities from 1981-83, the Dade County (Florida) 1983-84 Education Consolidation Improvement Act (ECIA) Chapter 2 Computer Education Project is described and evaluated. Evaluation is based on success in meeting several project objectives: (1) maintenance of existing microcomputer systems; (2) enhancement of the existing microcomputer program; (3) continued development of a software consortium; and (4) purchases for Chapter 1 schools. Distribution of Chapter 2 expenditures by objective is shown. It is concluded that the objectives have been met, and it is recommended and that funding be continued. (MES)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

DADE COUNTY PUBLIC SCHOOLS

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

EVALUATION OF THE 1983-84 ECIA, CHAPTER II COMPUTER EDUCATION PROJECT

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

R. Turner

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

OFFICE OF EDUCATIONAL ACCOUNTABILITY

BEST COPY AVAILABLE

DADE COUNTY SCHOOL BOARD

Mr. Paul L. Cejas, Chairman
Mr. Robert Renick, Vice-Chairman
Mrs. Ethel Beckham
Mr. G. Holmes Braddock
Dr. Michael Krop
Ms. Janet McAliley
Mr. William H. Turner

Dr. Leonard Britton
Superintendent of Schools

EVALUATION OF THE 1983-84

ECIA, CHAPTER II COMPUTER EDUCATION PROJECT

Principal Evaluator/Author: Donald R. Morris, Ph.D.

Office of Educational Accountability
October, 1984

TABLE OF CONTENTS

Executive Summary 1

The Computer Education Program: 1981-83 2

Acquisition and Distribution 2

Maintenance 3

Support 3

The 1983-84 ECIA, Chapter II Computer Education Project 4

Description of the Evaluation 4

Results 6

Objective 1a: Maintenance of the Existing Microcomputer Systems ... 6

Objective 1b: Enhancement of the Existing Microcomputer Program ... 6

Objective 2: Continued Development of a Software Consortium 6

Objective 4: Purchases for Chapter 1 Schools 7

Discussion 7

Executive Summary

For the second year, the Department of Basic Skills sought Chapter II funds in 1983 to aid in supporting Dade County's computer education program, which had in three years' time acquired 680 computer systems spread throughout 150 schools. As stated in the original proposal, the funds were requested for the purposes of: a) the maintenance and enhancement of the existing microcomputer program; b) the continued development of a software consortium; and c) support services for CAI and CMI software.

A sum of $619,152 was requested; $248,358 was granted. One of the objectives (c, above) was dropped due to insufficient funds. The funding was increased at midyear by an amount of $96,046, some $80,000 of which was earmarked for schools which had Chapter 1 programs.

The project was evaluated by 1) reinterpreting the objectives of the project in the context of the funds granted, and 2) inspecting the pattern of expenditures. The evaluation found that all objectives, as redefined, were met. The following recommendation is made.

1. The ECIA Chapter II Computer Education Project should be refunded for another year.

A point related to Chapter II funding policies is noted in the discussion, dealing with the use of temporary funding sources in situations where the resource need is permanent.

The Computer Education Program: 1981-83

Acquisition and Distribution

A comprehensive plan for computer education in Dade County was established in 1981. Over the next three years, a variety of funding sources - Title IV-B, Adult Education, and Chapter II - were employed in the effort to provide computer systems to the schools. Administered through the Bureau of Education's Department of Basic Skills (DBS), the Computer Education program had acquired some 680 microcomputer systems by the end of the 1982-83 school year.

All computers purchased through the DBS have been complete systems. Each was equipped with essential peripherals (disk drive, program recorder, and monitor), and a year's warranty.

Table 1 summarizes these acquisitions by level and year. Most of the systems were purchased in 1981-82, and more than half were located in the senior high schools.

TABLE 1

Number of Instructional Microcomputers Distributed
Through the Department of Basic Skills

	1981	1982	1983	Totals
Elementary	23	56	17	96
Junior High	40	115	36	191
Senior High	99	260	1	360
Opportunity Schools	--	--	3	3
Adult Centers*	--	30	--	30
Totals	162	461	57	680

* Only adult center located separately from senior high schools are counted separately. Shared equipment is counted with senior high totals.

SOURCE: Dade County Computer Education personnel.

The pattern of this distribution stems from the Preliminary Plan of 1981, which recommended that - at a minimum - each elementary school be provided with one computer system, each junior high school with five, and each senior high school with fifteen. Progress toward that goal over the past three years is noted in Table 2. The minimum distribution to the high schools was completed in 1983, that for junior high schools is three-fourths complete, and over half of the elementary schools have received at least one computer system through the DBS.

TABLE 2
Schools Receiving the Minimum Number of Microcomputers
Suggested by the Preliminary Plan of 1981

	Total Schools	Cumulative Number of Schools 1981	1982	1983
Elementary	174	23	79	92
(Percent)		(13)	(45)	(53)
Junior High	46	8	29	34
(Percent)		(17)	(63)	(74)
Senior High	24	4	23	24
(Percent)		(17)	(96)	(100)
Combined*	244	35	131	150
(Percent)		(14)	(54)	(61)

*Adult Centers and Opportunity Schools are omitted.

SOURCE: Data furnished by computer education personnel.

Maintenance

Complex equipment such as this requires skilled maintenance. Initially, each major unit comes with a manufacturer's warranty (one year, in the case of the computer unit and the disk drive). When the warranties expire, the cost of maintenance can be a problem. Results of an OEA survey in 1983 revealed that a number of responding schools had encountered difficulties in affording repairs for computers that they had purchased on their own. Also, service must be prompt and continuous if instructional programs are not to suffer.

As Table 1 shows, some 680 computer systems have been acquired in three years' time. The problem of maintaining this equipment as the warranties began to expire was systematically met for the first time in 1983, when Chapter II funds were used to purchase maintenance contracts en masse from private service firms for all computer systems for which warranties were expiring. At the beginning of the 1983-84 school year, the Department of Basic Skills requested that a maintenance facility be established within the school system. That request is under consideration by the Bureau of Business Services, but has not yet been implemented.

Support

One major support function, aside from providing the necessary maintenance to keep the machines up and running, is the provision of software. In 1981, and again in 1982, software allotments were included in the allotments of hardware to the schools. However, the Preliminary Plan had called for the establishment of a software consortium, to acquire, review and disseminate information about software, and computer instruction in general. In 1983, the Department of Basic Skills laid the foundation for a consortium with Title IV-B and Chapter II funds. A full time media specialist was hired, hardware and software purchased, and a monthly newsletter begun. By the beginning of the 1983-84 school year, the consortium was relocated and fully operational, augmented by a full-time staff of three, two of whom are funded through locally budgeted resources.

The 1983-84, ECIA, Chapter II Computer Education Project

As originally proposed, the 1983-84 computer education project sought $619,152 in Chapter II funds for the purpose of achieving three objectives: 1) the maintenance and enhancement of the existing microcomputer program; 2) the continued development of the software consortium (redesignated the computer laboratory); and 3) the provision of support services for the use of CAI and CMI software, including the hiring of two educational specialists.

The actual execution of the project, however (i.e., the allocation of the funds actually received), came to be contingent upon several external factors. First, the project was funded at $248,358, 40% of the amount requested. Salaries for the educational specialists were specifically omitted. This eliminated objective three at the outset.

Second, a decision on what was to constitute "maintenance and enhancement" was postponed until midyear, pending the outcome of a decision on whether to establish a locally supported permanent maintenance unit for microcomputer equipment. That outcome being negative, it was then decided to again purchase one-year maintenance contracts for all computer systems previously purchased by the program.

Third, the decision as to what new equipment (computer systems) to purchase was contingent on the allocation of state categorical funding for the purchase of hardware. Chapter II funds were to be used to complement this funding such that the original distribution of microcomputers proposed in the Preliminary Plan (one microcomputer to every elementary school, five to every junior high) could be completed.

Finally, funding was increased at midyear, to $344,404, an increase of $96,046 over that originally allocated. At the direction of the Office of Federal Projects Administration, $80,000 of these funds were allocated for the purchase of equipment and hardware, to be distributed to schools which were also receiving funding under Chapter 1. No written record of this allocation was available for inspection by the Department of Program Evaluation.

Of the original proposal, only the second objective, continued development of the software consortium, remained relatively intact. The salary of the media specialist was funded, and purchase of software and equipment began in September.

Description of the Evaluation

Although there have been major changes in the objectives and intent of the project since the approval of the original proposal, no formal revision or modification is available. Therefore, for purposes of evaluation, the objectives of the project are redefined as they are discussed.

Objective 1 of the proposal (maintenance and enhancement of the existing microcomputer program) is considered as two distinct objectives: 1a) maintenance of existing microcomputer systems; and 1b) enhancement of the existing microcomputer program.

For objective 1a, maintenance is taken to refer to microcomputers and peripheral equipment purchased for and in use in the computer education program (i.e. microcomputer stations purchased through the DBS for instructional use). This objective was addressed by the purchase of one-year maintenance contracts. It is considered met to the extent that all computer systems in the program (not to exceed 680) either receive them or are shown to be otherwise covered. Completeness of the scope of distribution was checked by comparison of a list of schools scheduled to receive contracts with prior lists of schools receiving computer stations from previous funding. Validation of purchase and intent to deliver was undertaken by examination of the purchase order (which contained the final negotiated cost and description of means of delivery) after processing by the Purchasing Department. The return by the recipient schools of property control/serial numbers of equipment to be maintained was accepted as an indicator of notification of, and acceptance by, those schools.

For objective 1b, "enhancement of the existing microcomputer program" is understood to mean the addition of new microcomputer systems to the program, up to and beyond the point at which the distribution proposed in the 1981 Preliminary Plan has been reached (i.e., one microcomputer for each elementary school, five for each junior high, and fifteen for each senior high). According to information provided by Computer Education Program personnel, most of the funds required to complete the recommendations of the Preliminary Plan were secured from another source. Chapter II funds were used as a supplement to purchase microcomputer systems for some of the 81 elementary schools which had not yet received any from DBS. The evaluation consisted of examining the purchase order, determining whether the schools to which the equipment was to be delivered were schools which had not previously received any computer systems through the program, and noting their number and location.

Objective 2 of the proposal (continued development of a software consortium) was evaluated as originally proposed, except that the percentage of the total available budget originally allocated to it was not considered as a reference point. Evaluation consisted of a report of software and equipment purchases, derived from an examination of the purchase orders, within a descriptive context provided by computer laboratory personnel.

Objective 3 of the proposal (support services for CAI and CMI software) is considered to have been eliminated by denial of funding, and no evaluation was attempted.

The purchase of microcomputer equipment for Chapter 1 schools is regarded as Objective 4. Because this differs somewhat from the primary purpose of Objective 1b (to complete the distribution prescribed in the 1981 Preliminary Plan), it is considered here as a separate objective. The evaluation consisted of identifying all purchase orders originating with the Director of Project MICRO (a Chapter 1 program), checking them for countersignature, and describing the type and distribution pattern of the purchased equipment.

The expenditure figures given in this report are those from the original purchase requisitions, and not the final negotiated figures after processing by the Purchasing Department. This is regarded as acceptable and appropriate for an evaluation, where the emphasis is on effects as reflected in general comparisons and relative quantities, rather than monetary exactness.

Results

Objective 1a: Maintenance of Existing Microcomputer Systems

This objective was met, as it was in the previous year, by the purchase of maintenance contracts. Participating schools in the system were provided with contracts covering those computers and disk drives purchased through DBS. Computer systems acquired through other sources were not included in the coverage.

Contracts for 670 Atari 800 computers and 676 disk drives were requisitioned at an overall cost of $83,434. Identification of the equipment was requested from the schools to ensure complete and accurate maintenance services.

Objective 1b: Enhancement of the Existing Microcomputer Program

At the beginning of the academic year, 12 junior high schools and 81 elementary schools still had not received the microcomputers recommended in the Preliminary Plan. In the course of a large purchase of over 1200 microcomputer systems, these requirements for all the 12 junior highs and 40 of the elementary schools were filled from state categorical funds. The remaining 41 elementaries received microcomputers from Chapter II funds. The majority of these systems - and all purchased for the elementary schools - were Apple IIe machines.

Objective 2: Continued Development of a Software Consortium (Computer Laboratory)

Purchases for the computer laboratory are summarized in Table 3. Hardware, in addition to various brands of microcomputers, peripherals, and equipment for use in the lab, also included two robots to be used in touring the schools. The lab equipment is now sufficient to support an ongoing training facility that offers regular and frequent workshops.

TABLE 3
Expenditures for Computer Laboratory by Category

Media Specialist (salary and benefits)	$ 32,708.00
Hardware	42,446.40
Software	20,100.72
Publications (books and periodicals)	1,369.84
Membership fees	11,650.00
Total	$ 108,274.96

SOURCE: Computed from purchase requisition lists furnished by Computer Education Personnel on June 4, 1984.

Purchases of software, books, and magazines have expanded the stock now available for review and check-out. The newsletter Computer News, now in the second year of publication, has served as a regular vehicle of communication. Finally, membership in the National School Board Computer Alliance and the Minnesota Educational Computing Consortium has broadened the scope and capabilities of the school system. The Dade County Computer Laboratory is now fully functional.

Objective 4: Purchases for Chapter 1 Schools

Purchase requisitions totalling $72,713.77 were initiated by the Director of Project Micro and countersigned by the Director of the DBS, permitting these funds to be used in support of the Chapter 1 microcomputer program. Six IBM-PC and 34 Apple IIe computers, along with peripherals, security racks, and some computer furniture, were purchased and distributed to ten schools (four junior highs, four senior highs, and two opportunity schools). In addition, Apple IIe software was purchased for some of these schools, and for one other opportunity center.

Discussion

The distribution of the expenditures of the Chapter II funds granted for the Computer Education Project, as computed from the lists of purchase requisitions, is given in Table 4. A fourth of this amount was required to provide maintenance coverage for the program as it existed at the beginning of the project period. Owing to funding from other sources, only 17 percent of the total was required to complete the original planned distribution. The largest allocation, 34 percent, went to continue and expand the support of the program provided through the computer laboratory. A fourth went to the purchase of equipment for Chapter 1 schools.

TABLE 4
Distribution of Chapter II Expenditures by Objective

Obj.	Description	$	%
1a	Maintenance of existing systems	$ 83,434.00	26
1b	Enhancement of existing programs*	56,046.40	17
2	Cont. development of computer lab.**	108,274.96	34
4	Purchase of equipment for Chapter 1 schs.	72,713.77	23
	Total	$ 320,469.13	100

* Includes salary for media specialist.
** Includes, in addition to bulk purchases of 41 Apple IIe's for distribution from Stores and Distribution, other miscellaneous purchases distributed to the schools.

SOURCE: Computed from Chapter II Basic Account lists furnished by Computer Education personnel on June 4, 1984. Where purchase order totals were not given, the listed estimated totals were substituted.

The evaluation found that all objectives were met. The following recommendation is made:

> The ECIA Chapter II Computer Education Project should be refunded for another year. [1]

A final comment has to do with one of the uses to which Chapter II funds have been put in the Computer Education projects. It has now been over three years since the Preliminary Plan was introduced and approved in the school system. As of this year, most of its goals have been fulfilled and surpassed. However, there as yet exists no permanent means of maintaining the program for which it served as a foundation.

For the second year, the DBS has sought Chapter II funds to purchase short-term (one-year) maintenance contracts to support the equipment for which it is responsible. Up to now, this has been for some 600-700 computer systems, and the fact that they were almost exclusively from one manufacturer has meant that purchase arrangements have been relatively simple. Taking into account this year's purchases, the DBS will next year need to seek funding to maintain approximately 2,000 systems supplied by multiple manufacturers.*

From the point of view of DBS, Chapter II funds are an available alternative to a pressing problem, where program maintenance is concerned, and the measures taken with these funds have been found adequate. From the point of view of the school system, however, and from the view of a "routine" use of Chapter II funds, there are some weaknesses in this approach. Every use of funds of a temporary nature to treat an endemic problem introduces the opportunity to postpone the implementation of a permanent policy. Further use of Chapter II funds for this purpose ought perhaps be accompanied by some statement of intent, that the school system does have plans for some permanent district-wide maintenance policy for its Computer Education Program.

---

* Project Micro, in the Chapter 1 program, will require similar support for the machines that it has acquired. There are an estimated one to two thousand other microcomputers in the system that various schools have acquired in a variety of ways, many with no means of maintaining them. One of the results of an OEA survey conducted last year in the course of the evaluation of the computer education project, revealed that a number of respondents reported that maintaining computer systems acquired on their own was a serious problem.

The School Board of Dade County, Florida adheres to a policy of nondiscrimination in educational programs/activities and employment and strives affirmatively to provide equal opportunity for all as required by:

Title VI of the Civil Rights Act of 1964 - prohibits discrimination on the basis of race, color, religion, or national origin.

Title VII of the Civil Rights Act of 1964, as amended - prohibits discrimination in employment on the basis of race, color, religion, sex, or national origin.

Title IX of the Education Amendments of 1972 - prohibits discrimination on the basis of sex.

Age Discrimination Act of 1967, as amended - prohibits discrimination on the basis of age between 40 and 70.

Section 504 of the Rehabilitation Act of 1973 - prohibits discrimination against the handicapped.

Veterans are provided re-employment rights in accordance with P.L. 93-508 (Federal and Florida State Law, Chapter 77-422, which also stipulates categorical preferences for employment.